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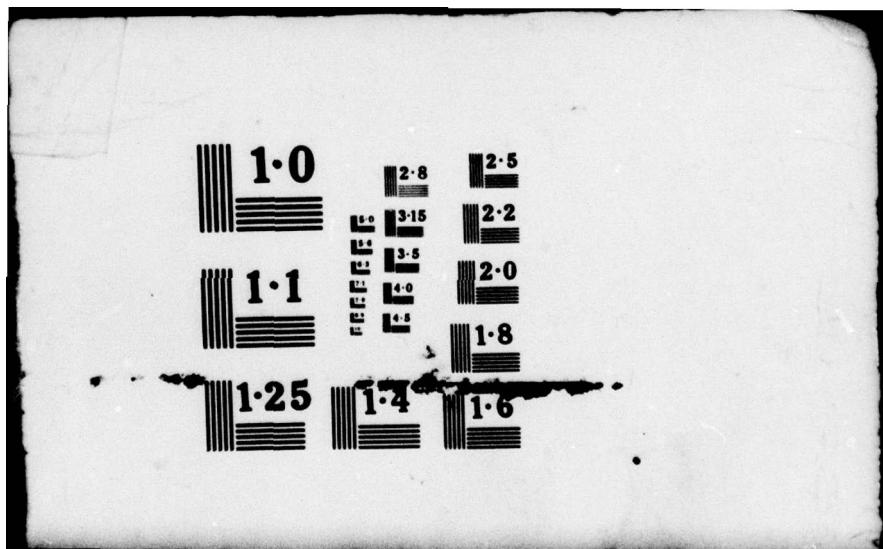
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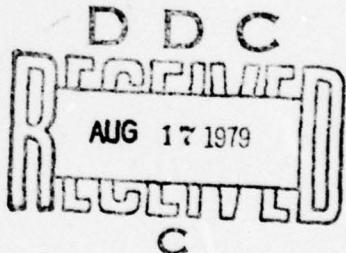
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UNITED STATES ARMY  
ENVIRONMENTAL HYGIENE  
AGENCY

ABERDEEN PROVING GROUND, MD 21010

ARMY OCCUPATIONAL HEALTH PROGRAM  
1978



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| This summary provides the best available assessment of the Army Occupational  |   |  |

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Health Program. It can be used by major commanders to assess the status of the Occupational Health Program within their commands and to identify areas that need improvement. Also, the entire report or its pertinent portions can be used by the major commanders as a labor management tool to inform command personnel of the occupational health services provided them during Calendar Year 1978.

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DEPARTMENT OF THE ARMY  
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY  
ABERDEEN PROVING GROUND, MARYLAND 21010

ARMY OCCUPATIONAL HEALTH PROGRAM  
1978

This report satisfies, in part, Department of the Army requirements under Section 19 of the Occupational Safety and Health Act of 1970 (Public Law 91-596) and under Section 2 of Executive Order 11807 (Occupational Safety and Health Program for Federal Employees) dated 28 September 1974. These requirements are to "make an annual report ... with respect to occupational accidents and injuries and the agency's program ...".

This report provides the best available assessment of the Army Occupational Health Program. It can be used by major commanders to assess the status of the Occupational Health Program within their commands and to identify areas that need improvement. Also, the entire report or its pertinent portions can be used by the major commanders as a labor-management tool to inform command personnel of the occupational health services provided them during Calendar Year 1978.

A summary of major points is provided on page 1.

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DEPARTMENT OF THE ARMY  
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY  
ABERDEEN PROVING GROUND, MARYLAND 21010

SUMMARY

ARMY OCCUPATIONAL HEALTH PROGRAM  
1978

Information compiled in preparing this report on the Army Occupational Health Program, 1978, allowed the following major observations:

- a. The 100 installation reports received generally showed improved overall reporting. However, reporting of military occupational health services was often haphazard and inaccurate. This was probably due to poor reporting mechanisms at installation level. DA direction is needed to correct problems with maintenance of occupational health records and data collection. Because of difficulties with reporting, the accuracy of judgments made on the basis of these reports may be somewhat questionable.
- b. There has been little improvement in reporting of occupational illnesses and injuries. Identified problem areas include a lack of definition of occupational illness and injury, poor reporting mechanisms and a lack of medical personnel awareness of job-related aspects of medical conditions.
- c. Despite some improvements there appeared to be minimal recognition or identification of occupational health needs for military personnel at installation level.
- d. Staffing was grossly inadequate to support medical aspects of occupational health programs, especially at TRADOC and FORSCOM installations. The number of physician staff assigned occupational health responsibilities has shown a steady decrease since 1973.
- e. Military audiologists tended to have limited involvement in hearing conservation programs.
- f. Audiograms frequently were invalid, due primarily to lack of training of personnel performing audiograms.
- g. Medical surveillance of pregnant women, aimed at preventing job factors from having adverse effects on the pregnant woman or developing fetus, is essential. This is particularly important in light of the expanding work roles and work exposures for women. However, medical surveillance of pregnant women was woefully inadequate.
- h. The number of prescription industrial strength safety glasses provided to military personnel seemed inadequate. Such glasses must be purchased through local contracts since safety glasses provided by military optical laboratories do not meet standards set for industrial strength safety eyewear.

## Army Occupational Health Program, 1978

1. INTRODUCTION. In December 1970, the 91st Congress passed Public Law 91-596 known as the Occupational Safety and Health Act whose objective is "to assure so far as possible every working man and woman in the Nation safe and healthful working conditions." Section 19 of the Act states "it shall be the responsibility of the head of each Federal agency to establish and maintain an effective and comprehensive occupational safety and health program." On 28 September 1974, the President issued Executive Order 11807 titled "Occupational Safety and Health Programs for Federal Employees." One of the many specific requirements of Executive Order 11807 is an annual evaluation of the Occupational Safety and Health Program of every Federal department and agency. Army Regulation 40-5, Health and Environment, 25 September 1974, requires submission of an annual occupational health report [Reports Control Symbol Med-20(R2) (DA Form 3076)]. This report provides a good tool for internal evaluation of the program. In 1973, this Agency was tasked to review the data reported in these annual occupational health reports. To satisfy legal requirements and to have maximum benefits and utilization of the data reported in Med-20, a cumulative summary report was prepared. This edition, the sixth annual one, provides not only the best available assessment of the Army Occupational Health Program, but also a general evaluation of trends of all program aspects. In addition, problem program areas are identified and a labor-management tool is provided.

### 2. SOURCE OF INFORMATION.

a. The installation Army Occupational Health Reports for Calendar Year 1978 were used to compile this report. These data were prepared from 100 of 101 expected reporting units (installations) for a reporting rate of 99.0 percent (Table 1). The number of expected reporting units does not represent the total number of Army installations, but the number of installations required to submit the annual report. This year there was a significant improvement in the reporting process. Many subinstallations reported separately rather than under the report of their respective MEDDAC/MEDCEN. This allows for a more accurate analysis of the data for each MACOM. This also accounts for the increased number of expected reports as compared to the number expected for 1977.

b. Occupational health reporting, for military personnel for a number of installations, continues to be haphazard and inadequate. Occupational health services, most frequently provided to the military through the Troop Medical Clinics, hospital clinics and emergency rooms (ER), are generally not recorded and reported as such. The annual occupational health report should represent the total occupational health services provided to all Department of Army personnel at the installation. Each year, over the past 6 years, some improvement has been noted in this area. However, the improvements made have not been adequate to accurately reflect the scope of the Army's Occupational Health Program. Significant improvement in the reporting process will be realized only when there is better understanding and closer

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collaboration and cooperation among all the medical treatment personnel and the personnel responsible for reporting occupational health data for each installation.

TABLE 1. OCCUPATIONAL HEALTH REPORTING, US ARMY, 1978

| Command | Expected Reports | Reports Received | Percent Reporting |
|---------|------------------|------------------|-------------------|
| DARCOM* | 39               | 39               | 100               |
| FORSCOM | 26               | 25               | 96.2              |
| TRADOC  | 20               | 20               | 100               |
| HSC     | 3                | 3                | 100               |
| Other†  | 13               | 13               | 100               |
| Totals  | 101              | 100              | 99                |

\* Does not include Government-owned, contractor-operated activities.

† Includes: Military Traffic Management and Terminal Service, USA Military District of Washington (MDW), Deputy Chief of Staff for Personnel, USA Communications Command, USA Intelligence Command, and the Defense Mapping Agency.

c. The population of reporting installations is shown in Table 2.

3. PROGRAM STAFFING.

a. Program staffing is depicted in Table 3.

b. The year 1978 showed no improvement in the physician staffing status in occupational health for FORSCOM, TRADOC and HSC. On the contrary, the population/physician ratios for these MACOMS increased by an average of 25 percent. DARCOM reported a 27.5 percent increase in physician person years which resulted in a 5.4 percent decrease in the population/physician ratio. Significant changes in the reporting system for MDW resulted in the noted changes for the "Other" category.

Army Occupational Health Program, 1978

TABLE 2. POPULATION OF INSTALLATIONS SUBMITTING OCCUPATIONAL HEALTH REPORTS, US ARMY, 1978

| Command | Civilian<br>Males | Civilian<br>Females | Total<br>Civilian | Military<br>Males | Military<br>Females | Total<br>Military | Total<br>Females | Total<br>Males | Total<br>Persons |
|---------|-------------------|---------------------|-------------------|-------------------|---------------------|-------------------|------------------|----------------|------------------|
| DARCOM  | 81,221            | 27,597              | 108,818           | 16,430            | 1,555               | 17,985            | 29,152           | 97,651         | 126,803          |
| FORSCOM | 38,491            | 24,892              | 63,383            | 256,859           | 22,364              | 279,223           | 47,256           | 295,350        | 342,606          |
| TRADOC  | 39,702            | 22,091              | 61,793            | 151,422           | 15,628              | 167,050           | 37,719           | 191,124        | 228,843          |
| HSC     | 6,505             | 1,180               | 7,685             | 1,865             | 460                 | 2,325             | 1,640            | 8,370          | 10,010           |
| Other   | 67,134            | 6,136               | 73,270            | 18,547            | 1,273               | 19,820            | 7,409            | 85,681         | 93,090           |
| Totals  | <u>233,053</u>    | <u>81,896</u>       | <u>314,949</u>    | <u>445,123</u>    | <u>41,280</u>       | <u>486,403</u>    | <u>123,176</u>   | <u>678,176</u> | <u>801,352</u>   |

\* Not all installations reported civilian employees and military personnel by sex. Those not reported by sex were counted as males.

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TABLE 3. STAFFING OF OCCUPATIONAL HEALTH PHYSICIAN(S), US ARMY, 1978

| Command                   | Full-time Civilian | Full-time Military | Part-time Civilian | Part-time Military | Total Professional Person-Years | Total Population Staff Ratio* |
|---------------------------|--------------------|--------------------|--------------------|--------------------|---------------------------------|-------------------------------|
| <u>Physicians</u>         |                    |                    |                    |                    |                                 |                               |
| DARCOM                    | 30                 | 12                 | 10                 | 3                  | 45.25                           | 2,802                         |
| FORSCOM                   | 1                  | 2                  | 2                  | 12                 | 6.5                             | 52,709                        |
| TRADOC                    | 6                  | 0                  | 6                  | 5                  | 8.75                            | 26,153                        |
| HSC                       | 0                  | 0                  | 2                  | 2                  | 1                               | 10,010                        |
| Other                     | 10                 | 0                  | 3                  | 1                  | 11                              | 8,463                         |
| Totals                    | 47                 | 14                 | 23                 | 23                 | 72.5                            | 11,053                        |
| <u>Nurses</u>             |                    |                    |                    |                    |                                 |                               |
| DARCOM                    | 87                 | 3                  | 7                  | 2                  | 92.25                           | 1,375                         |
| FORSCOM                   | 28                 | 0                  | 2                  | 3                  | 29.25                           | 11,713                        |
| TRADOC                    | 18                 | 0                  | 2                  | 8                  | 20.5                            | 11,163                        |
| HSC                       | 5                  | 0                  | 1                  | 2                  | 5.75                            | 1,741                         |
| Other                     | 42                 | 1                  | 1                  | 0                  | 43.25                           | 2,152                         |
| Totals                    | 180                | 4                  | 13                 | 15                 | 191                             | 4,196                         |
| <u>Technicians/Clerks</u> |                    |                    |                    |                    |                                 |                               |
| DARCOM                    | 145                | 64                 | 14                 | 22                 | 218                             | 582                           |
| FORSCOM                   | 15                 | 13                 | 11                 | 16                 | 34.75                           | 9,859                         |
| TRADOC                    | 18                 | 11                 | 13                 | 15                 | 36                              | 6,357                         |
| HSC                       | 0                  | 0                  | 4                  | 4                  | 2                               | 5,005                         |
| Other                     | 20                 | 16                 | 2                  | 8                  | 38.5                            | 2,418                         |
| Totals                    | 198                | 104                | 44                 | 65                 | 329.25                          | 2,434                         |

\* Overall Army total population/staff ratio calculated using population data from Table 2. Based on experience with occupational health programs, part-time staff was deemed to have worked an average of one-quarter of a person-year/part-time position.

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c. The nurse staffing conditions, however, showed some improvement for all four MACOMS; DARCOM, FORSCOM, TRADOC and HSC. Reportedly there was an average increase of 25 percent in the nurse professional person-years resulting in an average of 11.6 percent decrease in the population/nurse ratio.

d. The technician/clerk staffing patterns showed an increase in the technical person-years for DARCOM and FORSCOM and a decrease in the technical person years for TRADOC and HSC.

e. While some improvement was noted in the areas of nursing and technical staffing patterns during 1978, it remains evident that the current staff levels are grossly inadequate to meet the occupational health needs of the US Army, today. The population/staff ratios for FORSCOM and TRADOC indicate overwhelming shortages of physicians and nurses designated for occupational health for these MACOMS. Furthermore, the trend shows that physician staffing deficits have become even more pronounced over the past year, indicating an apparent lack of concern for or emphasis on the occupational health program which is required by law. The Army's Occupational Health Program will not and cannot meet legal and regulatory requirements until action is taken to obtain the necessary staff.

### 4. PROGRAM ELEMENTS.

a. Examinations. Physical examinations are shown in Table 4. Fluctuations in the absolute numbers of individuals examined and in the percentage of the population examined occurred for each type of examination. No trends were observed as compared to previous reporting years.

b. Occupational Vision. A summary of the occupational vision program is shown in Table 5.

(1) The data reported for 1978 show a significant increase in the number of workers employed in eye hazardous areas. This is largely due to an increase in covered civilian personnel in DARCOM and military personnel in FORSCOM. These two categories had shown decreases in 1977 from 1976. The increase in 1978 is likely due to somewhat improved reporting. The number of screenings reported, especially for military personnel, undoubtedly include a large number which were not occupationally related.

(2) The effective rate of the vision screening program remains largely unchanged. Since the data are believed to include many non-occupational screenings, no significance can be drawn from this information.

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TABLE 4. PHYSICAL EXAMINATIONS REPORTED, US ARMY, 1978

| Command | CIVILIAN                     |                 |                      |                              | MILITARY             |                             |                      |  |
|---------|------------------------------|-----------------|----------------------|------------------------------|----------------------|-----------------------------|----------------------|--|
|         | Placement<br>No.<br>Reported | No.<br>Reported | Percent*<br>Examined | Voluntary<br>No.<br>Reported | Percent*<br>Examined | Periodic<br>No.<br>Reported | Percent*<br>Examined |  |
| DARCOM  | 15,304                       | 34,077          | 31.3                 | 4,786                        | 4.4                  | 6,628                       | 36.9                 |  |
| FORSCOM | 6,765                        | 24,361          | 38.4                 | 3,200                        | 5.1                  | 101,294                     | 36.3                 |  |
| TRADOC  | 3,854                        | 22,015          | 35.6                 | 6,723                        | 10.9                 | 65,272                      | 39.1                 |  |
| HSC     | 611                          | 185             | 2.4                  | 660                          | 8.6                  | 396                         | 17                   |  |
| Other   | 1,929                        | 4,101           | 5.6                  | 724                          | 1.0                  | 1,045                       | 5.3                  |  |
| Totals  | 28,463                       | 84,739          | 26.9                 | 16,093                       | 5.1                  | 174,635                     | 35.9                 |  |

\* Percent calculated using population data from Table 2.  
 † Overall Army percentages.

TABLE 5. OCCUPATIONAL VISION PROGRAM, US ARMY, 1978

| Command | Prescription |        |        |         | Nonprescription |      |      |      | % in EHA |       |
|---------|--------------|--------|--------|---------|-----------------|------|------|------|----------|-------|
|         | Civ          | Mil    | Civ    | Mil     | Civ             | Mil  | Civ  | Mil  | Civ      | Mil   |
| DARCOM  | 38,478       | 2,147  | 44,552 | 7,020   | 40.9            | 39.0 | 0.60 | 0.70 | 11,232   | 337   |
| FORSCOM | 12,619       | 51,457 | 17,222 | 53,424  | 27.2            | 19.1 | 0.45 | 0.32 | 3,052    | 294   |
| TRADOC  | 9,922        | 7,684  | 18,484 | 69,113  | 29.9            | 41.4 | 0.52 | 0.79 | 3,188    | 385   |
| HSC     | 658          | 120    | 2,177  | 454     | 28.3            | 19.5 | 0.52 | 0.37 | 167      | 48    |
| Other   | 1,723        | 533    | 3,593  | 982     | 4.9             | 9.9  | 0.10 | 0.10 | 851      | 320   |
| Totals  | 63,400       | 61,941 | 86,028 | 130,993 | 27.3            | 26.9 | 0.45 | 0.48 | 18,490   | 1,384 |
|         |              |        |        |         |                 |      |      |      | 15,605   | 5,184 |

\* EHA - eye-hazardous areas.

† Percent of employees provided vision screening examinations as compared to population served using data from Table 2.

‡ Equals proportion of examinations that were accomplished to those that should have been accomplished under USEHA guidelines. These guidelines recommend screening personnel in eye-hazardous areas annually and all other employees biennially.

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(3) The number of nonprescription safety glasses dispensed showed a sizeable increase, although the figure still appears low. The percentage of military personnel in eye hazardous areas obtaining safety spectacles was even lower than last year's poor figures.

(4) No patterns or trends can be found in the figures reported since 1973. Many installation reports are inconsistent from year to year.

c. Hearing Conservation. The hearing conservation program is depicted in Table 6.

(1) Trends in the data for hearing conservation show clearly increased emphasis on this program. Since 1973 there has been a reported increase of 434 percent in the numbers of periodic audiograms done on military and civilian personnel. Most notably, the number of reported periodic audiograms for military increased from 25,649 in 1973 to 202,284 in 1978.

(2) Increases in the numbers of audiograms have yielded concomitant increases in the reported numbers of progressive hearing loss cases. This is probably a result of case finding rather than a real increase in cases of hearing loss. The number of reported hearing loss cases peaked at 10,191 for military personnel in 1977 and showed a decrease to 6,508 reported cases in 1978, in spite of an increase of 42,425 more audiograms in 1978 than in 1977. This decrease in hearing loss cases may indicate that screening programs are identifying more new cases of hearing loss and fewer old, previously unidentified cases of hearing loss.

d. Radiation Protection. The radiation protection program is reflected in Table 7. These data indicate that there were fewer persons in the film badge program for 1978 than in 1977. The reported increase in the number of bioassays from the 1977 report continues in an upward trend.

e. Immunization Program. The numbers of immunizations reported (see Table 8) have significantly decreased from the number reported in 1977. This is probably due to efforts to improve the quality of these data by requesting that installations not include the numbers of periodic immunizations given to military personnel as a part of the routine health maintenance program. The data reported here should only reflect those immunizations given to protect individuals from a specific infectious hazard on their job. Many installations have included the military immunization program data in these figures, thus grossly overstating the need for such protection in a routine occupational health setting.

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TABLE 6. HEARING CONSERVATION PROGRAM, US ARMY, 1978

| Command       | Preemployment Audiograms |               | Periodic Audiograms |               | Hearing Protective Devices Dispensed |               | Prescriptive Hearing Loss Cases |              |
|---------------|--------------------------|---------------|---------------------|---------------|--------------------------------------|---------------|---------------------------------|--------------|
|               | Civ                      | Mil           | Civ                 | Mil           | Civ                                  | Mil           | Civ                             | Mil          |
| DARCOM        | 8,702                    | 23,946        | 2,233               | 28,961        | 7,991                                | 16,074        | 1,860                           | 503          |
| FORSCOM       | 5,669                    | 11,683        | 135,901             | 17,620        | 103,491                              | 15,648        | 267,964                         | 614          |
| TRADOC        | 5,012                    | 16,100        | 37,219              | 12,396        | 83,833                               | 6,369         | 101,699                         | 545          |
| HSC           | 911                      | 728           | 287                 | 382           | 503                                  | 91            | 90                              | 0            |
| Other         | 1,652                    | 3,192         | 713                 | 3,790         | 6,466                                | 1,414         | 17,209                          | 82           |
| <b>Totals</b> | <b>21,946</b>            | <b>55,649</b> | <b>176,353</b>      | <b>63,149</b> | <b>202,284</b>                       | <b>39,596</b> | <b>388,822</b>                  | <b>1,744</b> |

\* NHA - noise-hazardous areas.

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TABLE 7. RADIATION PROTECTION PROGRAM, US ARMY, 1978

| Command | Film Badge<br>Program |          | Bioassays |          | Film Badge<br>Overexposures |          |
|---------|-----------------------|----------|-----------|----------|-----------------------------|----------|
|         | Civilian              | Military | Civilian  | Military | Civilian                    | Military |
| DARCOM  | 2,914                 | 313      | 1,816     | 10       | 7                           | 6        |
| FORSCOM | 1,537                 | 4,725    | 128       | 227      | 2                           | 4        |
| TRADOC  | 830                   | 1,118    | 105       | 711      | 0                           | 2        |
| HSC     | 1,164                 | 164      | 1,126     | 120      | 1                           | 0        |
| Other   | 107                   | 162      | 0         | 0        | 0                           | 0        |
| Totals  | 6,552                 | 6,482    | 3,175     | 1,068    | 10                          | 12       |

TABLE 8. IMMUNIZATIONS GIVEN IN OCCUPATIONAL HEALTH PROGRAMS, REPORTED BY MAJOR COMMANDS, US ARMY, 1978

| Command | Tetanus | Smallpox | Typhoid | Other   | Total   |
|---------|---------|----------|---------|---------|---------|
| DARCOM  | 3,839   | 1,735    | 2,112   | 18,891  | 26,577  |
| FORSCOM | 8,220   | 12,671   | 5,480   | 80,731  | 107,102 |
| TRADOC  | 28,074  | 15,185   | 27,873  | 36,388  | 107,520 |
| HSC     | 321     | 82       | 2,798   | 4,227   | 7,428   |
| Other   | 1,260   | 537      | 595     | 42,115  | 44,507  |
| Totals  | 41,714  | 30,210   | 38,858  | 182,352 | 293,134 |

f. Pregnancy Surveillance. The number of new pregnancies reported are shown in Table 9. Since 1973, there has been minimal improvement in the reporting of pregnancy in the Army's employed female work force both military and civilian. There is cause for serious concern if pregnant women are not being given appropriate work evaluations, counseling and followup. Today pregnant women are being employed in jobs with potential for a variety of toxic or hazardous exposures. It is crucial that the occupational health programs at the installation level incorporate into their programs an active pregnancy surveillance program to protect the health of the working mother and her unborn child.

g. Occupational Illnesses and Injuries. Occupational illnesses and injuries reported for military and civilian personnel are depicted in Table 10.

Army Occupational Health Program, 1978

TABLE 9. PREGNANCY SURVEILLANCE PROGRAM, REPORTED BY MAJOR COMMANDS, US ARMY, 1978

| Command | New Pregnancies |
|---------|-----------------|
| DARCOM  | 324             |
| FORSCOM | 1,007           |
| TRADOC  | 1,688           |
| HSC     | 36              |
| Other   | 254             |
| Total   | <u>3,309</u>    |

TABLE 10. OCCUPATIONAL ILLNESSES AND INJURIES REPORTED BY MAJOR COMMANDS, US ARMY, 1978

| Command | Number of Illnesses | Number of Injuries |
|---------|---------------------|--------------------|
| DARCOM  | 1,483               | 20,448             |
| FORSCOM | 2,449               | 10,392             |
| TRADOC  | 284                 | 21,134             |
| HSC     | 14                  | 989                |
| Other   | 446                 | <u>5,856</u>       |
| Totals  | <u>4,676</u>        | <u>58,819</u>      |

(1) There has been little improvement in the reporting of occupationally related illness and injuries. The basic problem areas contributing to this lack of information are still major influences on the reporting system. These problem areas include: inappropriate or misunderstood definitions of job-related illness and injuries, poorly developed mechanisms of reporting, and medical personnel not being aware of the job-related aspects of some medical conditions.

(2) Illness and injury prevention is the major thrust of the occupational health program. Proper identification, recording and reporting of illness and injury rates provides an important tool for evaluating the effectiveness of the prevention program, for identifying areas requiring more emphasis and for conducting epidemiologic studies of clinical observations. Many installations did not report any occupationally related illnesses for the year 1978. The underreporting of these important data does not mean that illness and injury rates are low, it merely indicates a severe weakness in the Army's Occupational Health Program.

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h. Analysis of Illnesses and Injuries Reported in Narrative Form.

(1) Twenty-nine installations reported, in narrative form, a breakdown of the types of occupational illnesses and injuries. Of the total numbers of illness and injury, 16.7 percent of the illnesses and 9.8 percent of the injuries were broken down in the narratives.

(2) AR 385-40 requires coding and reporting of occupational illnesses and injuries according to Occupational Safety and Health Administration (OSHA) definitions. An attempt was made to code the injuries and illnesses reported in these narratives by these definitions.

(3) Reporting of occupational illnesses and injuries to safety personnel requires that data be provided in such fashion that they can be easily coded. OSHA definitions are different from those commonly used by medical personnel. Unless medical personnel are familiar with the requirements of AR 385-40, Accident Reporting and Records, 15 August 1972, inaccuracies in coding will occur.

(4) The following table (Table 11) was compiled from the narrative reports. It is apparent that coding may be inaccurate. As an example, "back" and "limb" injuries have been reported as Code 10: All Occupational Injuries. Some of these may very well actually be Code 26: Disorders Due to Repeated Trauma. In addition, injuries requiring first aid only do not have to be reported. It is unknown whether some of these were first aid only cases.

i. Treatment of Nonoccupational Conditions. Treatment of nonoccupational conditions is shown in Table 12. There is virtually no change in the number of treatments except for the other category which shows more than a 1,150 percent increase. This increase is largely due to the separate reporting by installations in MDW. The only other increase was in TRADOC, which in the past has been much lower than other commands in the number of treatments provided.

j. Screening Programs. Statistical analyses of disease-screening programs are shown in Tables 13, 14, 15, 16 and 17. Referral rates for the disease screening programs continue to be low. Mass screening programs should be designed for populations with a higher than average risk of getting the disease and should use a screening tool that's both specific and sensitive for the disease being screened for. Referral is an essential second step to the screening process. Screening without referral is a meaningless service for the employee as well as the employer. It is probable, that in many cases, appropriate referrals were made, but that the data had not been reported. These data are essential for the evaluation of screening programs and for the followup of the referred individuals.

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TABLE 11. OCCUPATIONAL ILLNESSES AND INJURIES REPORTED BY OSHA CODES FROM NARRATIVE REPORTS SUBMITTED BY 29 US ARMY INSTALLATIONS, 1978

|   |       |
|---|-------|
| Code 10: All Occupational Injuries - Total                    | 5,766 |
| Abrasions/lacerations/contusions/avulsions/bruises            | 2,029 |
| Sprains/strains (other than back)                             | 830   |
| Back - including sprains/strains/injuries                     | 530   |
| Compensable injury not classified                             | 509   |
| Insect bites/stings   | 326   |
| Burns   | 224   |
| Limb/joint  | 159   |
| Fractures/dislocations  | 193   |
| Puncture wounds   | 187   |
| Foreign bodies  | 91    |
| Hand/foot injury (not otherwise classified)                   | 86    |
| Head injuries/facial injuries (including concussions)         | 66    |
| Hernias   | 41    |
| Soft tissue injuries (including muscle trauma/torn ligaments) | 32    |
| Electrical injuries   | 20    |
| Multiple injuries (severe)                                    | 14    |
| Animal bites  | 14    |
| Trunk injuries  | 17    |
| Amputations   | 9     |
| Gun shot wounds   | 6     |
| Tooth injuries (dental injury)                                | 6     |
| Fatalities  | 6     |
| 2 crushed   |       |
| 2 track vehicle   |       |
| 1 concussion  |       |
| 1 shooting  |       |
| Snake bites   | 4     |
| Traumatic ear injuries  | 3     |
| Human bites   | 3     |
| Acute acoustic trauma   | 1     |
| Multiple wounds - gas cylinder explosion                      | 1     |
| Eye Injuries - Total  | 359   |
| Foreign bodies in eye   | 84    |
| Eye injuries (not classified)                                 | 251   |
| Corneal abrasions   | 16    |
| Subconjunctival hemorrhages                                   | 1     |
| Thermal burn of eye   | 6     |
| Conjunctival abrasion   | 1     |
| All Occupational Illnesses - Total                            | 783   |

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TABLE 11. Continued

|  |     |
|--|-----|
| Code 21: Occupational Skin Diseases or Disorders - Total         | 606 |
| Includes: Dermatitis   | 552 |
| Conjunctivitis   | 17  |
| Chemical burns - eye   | 14  |
| Chemical burns   | 8   |
| Chemical irritation of skin                                      | 6   |
| Chemical conjunctivitis  | 3   |
| Fungal infection   | 3   |
| Infection of skin and subcutaneous tissue                        | 3   |
| Code 22: Dust Diseases of the Lungs (Pneumononioses)             | 2   |
| Includes: Asbestosis   | 2   |
| Code 23: Respiratory Conditions Due to Toxic Agents - Total      | 15  |
| Includes: Inhalation Fumes/dust                                  | 7   |
| Inhalation smoke   | 3   |
| Asthma/allergy to fumes  | 4   |
| Chemical tracheitis  | 1   |
| Code 24: Poisoning (Systemic Effects of Toxic Materials) - Total | 26  |
| Includes: Poisoning not classified                               | 10  |
| Toxic effects of gasoline  | 3   |
| Agent Exposures  | 2   |
| Biological agent exposure  | 2   |
| Mercury toxicity   | 2   |
| Allergic reaction to diesel fuel                                 | 1   |
| Toxic effects of benzene/toluene                                 | 1   |
| Inhalation toxic fumes (lead)                                    | 1   |
| Polymer fume fever   | 1   |
| Carbon monoxide poisoning  | 1   |
| Intoxication (unspecified)                                       | 1   |
| Systemic effects from solvent fumes                              | 1   |
| Code 25: Disorders Due to Physical Agents - Total                | 83  |
| Includes: Flashburn (eyes)                                       | 39  |
| Heat injury  | 18  |
| Cold injury  | 15  |
| Nonionizing radiation exposures (questionable)                   | 9   |
| Radiation exposures  | 2   |

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TABLE 11. Continued

|  |    |
|--|----|
| Code 26: Disorders Due to Repeated Trauma* - Total | 28 |
| Includes: Blisters                                 | 15 |
| Tendonitis   | 3  |
| Ganglion   | 2  |
| Neuritis   | 2  |
| Osteoarthritis (spine)                             | 2  |
| Arthritis  | 1  |
| Varicosity   | 1  |
| Occlusion radial artery                            | 1  |
| Sore hand  | 1  |
| Code 29: All Other Occupational Illnesses - Total  | 23 |
| Includes: MI (heart attack)                        | 5  |
| Angina (chest pain)                                | 4  |
| Hepatitis  | 3  |
| Syncope  | 2  |
| Abscess  | 1  |
| Severe obstructive pulmonary disease               | 1  |
| Atropine overdose                                  | 1  |
| Job related stress                                 | 1  |
| Seizure disorder                                   | 1  |
| Leukemia   | 1  |
| Rash and swelling on face and neck                 | 1  |
| Blood clot - below knee                            | 1  |
| TB   | 1  |
| Detached retina                                    | 1  |

\* Although no hearing losses were reported in the narratives, the 11,835 hearing losses reported in the statistical summaries should be reported under Code 26.

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TABLE 12. TREATMENTS OF NONOCCUPATIONAL CONDITIONS BY MAJOR COMMANDS,  
DEPARTMENT OF THE ARMY CIVILIAN EMPLOYEES, 1978

| Command | Number of Treatments |
|---------|----------------------|
| DARCOM  | 147,259              |
| FORSCOM | 34,457               |
| TRADOC  | 17,908               |
| HSC     | 6,410                |
| Other   | 160,994              |
| Total   | 367,028              |

TABLE 13. DIABETES SCREENING BY MAJOR COMMANDS, US ARMY, 1978

| Command | Number Screened | Percent of Total Population Screened* | Referrals | Percent Referred |
|---------|-----------------|---------------------------------------|-----------|------------------|
| DARCOM  | 13,378          | 10.6                                  | 208       | 1.6              |
| FORSCOM | 50,871          | 14.8                                  | 47        | 0.1              |
| TRADOC  | 44,907          | 19.6                                  | 116       | 0.3              |
| HSC     | 456             | 4.5                                   | 0         | 0                |
| Other   | 1,686           | 1.8                                   | 65        | 3.9              |
| Totals  | 111,298         | 13.8                                  | 436       | 0.4              |

\* Population data from Table 2.

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TABLE 14. HEART DISEASE SCREENING REPORTED BY MAJOR COMMANDS, US ARMY, 1978

| Command | Number Screened | Percent of Total Population Screened* | Referrals | Percent Referred |
|---------|-----------------|---------------------------------------|-----------|------------------|
| DARCOM  | 27,539          | 21.7                                  | 2,286     | 8.3              |
| FORSCOM | 21,027          | 6.1                                   | 757       | 3.6              |
| TRADOC  | 27,089          | 11.8                                  | 5,428     | 20.0             |
| HSC     | 2,897           | 28.9                                  | 60        | 2.1              |
| Other   | 35,862          | 38.5                                  | 1,013     | 2.8              |
| Totals  | 114,414         | 14.3                                  | 9,544     | 8.3              |

\* Population data from Table 2.

TABLE 15. TUBERCULOSIS SCREENING REPORTED BY MAJOR COMMANDS, US ARMY, 1978

| Command | Number Screened | Percent of Total Population Screened* | Referrals | Percent Referred |
|---------|-----------------|---------------------------------------|-----------|------------------|
| DARCOM  | 16,035          | 12.6                                  | 233       | 1.4              |
| FORSCOM | 36,966          | 10.8                                  | 951       | 2.6              |
| TRADOC  | 99,097          | 43.3                                  | 1,679     | 1.7              |
| HSC     | 3,960           | 39.6                                  | 193       | 4.9              |
| Other   | 7,378           | 7.9                                   | 213       | 2.9              |
| Totals  | 163,436         | 20.4                                  | 3,269     | 2.0              |

\* Population data from Table 2.

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TABLE 16. CANCER SCREENING REPORTED BY MAJOR COMMANDS, US ARMY, 1978

| Command | Number Screened | Percent of Total Population Screened* | Referrals | Percent Referred |
|---------|-----------------|---------------------------------------|-----------|------------------|
| DARCOM  | 3,292           | 2.6                                   | 83        | 2.5              |
| FORSCOM | 9,436           | 2.8                                   | 244       | 2.6              |
| TRADOC  | 30,905          | 13.5                                  | 11        | 0.04             |
| HSC     | 452             | 4.5                                   | 7         | 1.5              |
| Other   | 664             | 0.7                                   | 9         | 1.4              |
| Totals  | 44,749          | 5.6                                   | 354       | 0.8              |

\* Population data from Table 2.

TABLE 17. GLAUCOMA SCREENING REPORTED BY MAJOR COMMANDS, US ARMY, 1978

| Command | Number Screened | Percent of Total Population Screened* | Referrals | Percent Referred |
|---------|-----------------|---------------------------------------|-----------|------------------|
| DARCOM  | 2,828           | 2.2                                   | 24        | 0.8              |
| FORSCOM | 7,621           | 2.2                                   | 104       | 1.4              |
| TRADOC  | 25,406          | 11.1                                  | 58        | 0.2              |
| HSC     | 250             | 2.5                                   | 0         | -                |
| Other   | 3,512           | 3.8                                   | 67        | 1.9              |
| Totals  | 39,617          | 4.9                                   | 253       | 0.6              |

\* Population data from Table 2.

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5. CONCLUSIONS.

a. Progress in the improvement of the occupational health reporting system appears to be slow but notable. Telephone contact and personal contact during surveys has done much to improve the quality of the data included in the report. The basic problems, however, persist and form the major obstacle to producing a valid, reliable Army Occupational Health Report. Those major deficiencies include:

(1) Inadequate local reporting mechanisms to obtain reports of occupational health services provided to military and civilian personnel by medical clinics, ER's, and treatment areas other than the occupational health clinic.

(2) Lack of necessary staff and clerical assistance at the installations to obtain and compile, in a timely manner, the necessary data from all providers of care.

(3) Misinterpretation of the definitions of some of the reporting categories in the annual report.

(4) Failure to identify illness or injury as possible occupationally related conditions.

b. An exploration of the statistical data reported since 1973 revealed very few consistent trends. For the most part, numbers reported showed very little consistency over time, even when taking into consideration changes in the base population. However, on reviewing the narrative portion of the reports, it is evident that the programs are improving in terms of being more responsive to occupational health needs. This trend should be, but is not, reflected in the statistical data reported. This is probably due to the problems cited in paragraph 5a.

c. It must be noted that some installations submit high quality reports and also include pertinent narrative summaries. These high quality reports indicate that these installations use this report as a tool for program evaluation, which is a major purpose of this reporting system (see the Appendix). Each installation should analyze their data to identify program strengths, weaknesses, trends in illnesses and injuries and to identify problem areas. When used appropriately the annual occupational health report can be as valuable to the individual installations as it is as a compiled Army wide statistical summary.

6. USAEHA OBSERVATIONS. During the installation surveys performed by this Agency, some improvements and many common problems have been identified which are not specifically reported in the installation occupational health reports.

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a. General.

(1) Slow, but identifiable program improvement continues in such areas as increased specificity of job related medical surveillance examinations and improved systems for scheduling these examinations. There has also been some increased coordination between the occupational health staff and other MEDDAC staff and division surgeons in trying to identify and meet the occupational needs for military personnel. A few installations have begun to establish a system for job-related medical surveillance of military personnel.

(2) Despite the improvements, there is still only minimal recognition or identification at the installation level of occupational health service requirements for the military, with the exception of hearing conservation. There is a need for specific orientation of division and medical treatment facility personnel regarding occupational health for the military and for coordinated efforts to provide the necessary services. Limited staffing to accomplish this is a critical problem. It is hoped that the recently distributed Appendix to this Agency's Medical Surveillance Guide concerning military job oriented medical surveillance will facilitate provision of job-related medical surveillance for military employees.

(3) Maintenance of occupational health records and collection of necessary program data continues to be a problem. Provision of direction in these areas by the Department of Army is still pending.

(4) One command of the Army that is not reflected in this report is the Corps of Engineers. Because of the type of organization, distribution of employees, and multiple sources of medical support, the Corps has not been included. With some exceptions, all occupational health programs of Corps activities, have been evaluated. For the most part, they receive medical support from Federal occupational health units providing services to tenants in Federal buildings, or from local physicians and clinics near Corps projects. The scope of occupational health services received ranged from very little to a reasonable coverage of the basic job-related medical surveillance and treatment of illness and injury requirements, plus some health maintenance services. Identification of occupational health hazards varies in completeness, but this is being corrected through use of industrial hygiene contractors.

b. Occupational Vision.

(1) Occupational vision surveys indicate continued improvement and awareness of the need for good visual performance and adequate eye protection.

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(2) Due to the changes in AR 40-3 and AR 40-5, allowing the health facility to provide authorized eye examinations for these individuals the Army optometry clinics have become much more involved in the occupational vision programs. This involvement is particularly evident at TRADOC and FORSCOM installations where the clinics are generally large enough to handle the increased workload. Many of the smaller installations, without optometric support, are contracting for the examinations, with guidance from HSC and the servicing MEDDAC/MEDCEN.

(3) Pending final staffing, a TB MED, Occupational Vision, should be published by FY 1980.

(4) Final approval is due shortly on the revised American National Standards Institute (ANSI) Standard Z87.1, Practice for Occupational and Educational Eye and Face Protection. This should aid in eliminating the confusion still existing between approved industrial standards and those established by the Food and Drug Administration.

(5) Many military personnel are not being provided with approved industrial safety spectacles. The military optical laboratories do not furnish spectacles meeting industrial standards.

(6) Many installations are still using plastic squeeze bottles in lieu of approved eye lavage fountains. The bottles are not adequate in areas of possible chemical splash.

c. Hearing Conservation.

(1) USAEHA Bio-Acoustics Division personnel report no significant improvements in the overall hearing conservation program. With the exception of Fort Carson and Fort Hood, FORSCOM installations continue to have the least developed programs. The most notable improvements at Fort Carson and Fort Hood include the health education aspects of their programs, enforcement of the mandatory use of hearing protection among military personnel, and the acquisition of state-of-the-art, microprocessor-controlled audiometers. Preventive medicine personnel from Fort Carson have procured a Mobile Audiometric Test Center and have established the feasibility and advantages of bringing audiometric testing services to the troops. Army-wide military participation in audiometric testing is approximately 40 percent with a no-show rate for scheduled tests to average around 50 percent. Mobile vans particularly in Europe, Korea, and at large FCRSCOM installations could significantly increase military participation in this aspect of the program. Program improvements at Forts Carson and Hood are the direct results of command emphasis for hearing conservation measures and the efforts of local medical personnel, particularly the effective use of a multi-disciplined approach with maximum utilization of military audiologists. Unfortunately, a growing trend has been observed at other installations to limit military

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audiologists from active participation in the program. In some cases, this lack of participation is self-induced. For the most part, however, it has been attributed to the lack of official recognition of the military audiologist's role and the concerns of Preventive Medicine/Occupational Medicine personnel over professional prerogatives and manpower justifications.

(2) Repeated deficiencies for the overall program are noted in the following areas:

- (a) Lack of enforcement of the use of hearing protective devices among civilian personnel.
- (b) Approximately 60 percent of the military personnel routinely exposed to hazardous noise are not receiving annual audiometric tests.
- (c) DH-132 combat vehicle helmets and SPH-4 aviator helmets are being worn with unserviceable earcup seals and a significant number of DH-132 helmets are being worn without seals. Note: A nonhardening earcup seal has been evaluated by the US Army Aeromedical Research Laboratory (Fort Rucker, AL) but Natick Laboratories has refused final approval because of their objection that the same manufacturer would be producing the seals and the helmets.
- (d) Audiometric tests results are often invalid and have been administered by personnel who have not received approved training in the techniques of audiometry.
- (e) The Army currently has no objective measures of program effectiveness.
- (f) Most noise-hazardous equipment is not posted with the appropriate caution decals.

(3) Local military audiologists in conjunction with USAEHA Bio-Acoustics Division personnel have conducted Hearing Conservation Workshops at local installations. Approximately 100 personnel have been trained in these workshops this past year. Local workshops are a cost effective means of training personnel and this concept should be expanded in the future.

d. Report Form (DA FORM 3076). The need for an improved report form has been recognized. The new DA Form 3076 has been finalized and distributed to DA publication centers. Installations should procure the new form and use it IAW the appropriate instruction changes to AR 40-5.

APPENDIX

SUMMARIES OF DETAILED NARRATIVES

1. Lexington-Blue Grass Depot Activity (Richmond, KY) outlined the continuing education activities for physician and nursing staff, such as Chemical Accident Incident Control Program Training, cardiopulmonary resuscitation and Primary Care Review. The occupational health staff presented lectures to employees on alcoholism, and the MEDDAC audiologist gave a workshop on "Hearing Conservation for Supervisors." The Lexington-Blue Grass report also contained details of the types of occupational illnesses and injuries by month.
2. Lexington-Blue Grass Depot Activity (Lexington, KY) provided details about the specific screening tests and medical surveillance examinations performed and the numbers of positive test results. Major occupational hazards found at Lexington Blue-Grass were also included. The staff attended continuing education programs on primary care and management.
3. Fort McClellan reports increased emphasis on the hearing conservation program. This includes employee education and individual counseling. Special consideration was given to persons, mostly active duty military, using the firing range. The command has been supportive and recent spot checks have indicated substantial improvements. An active hypertensive screening program has surfaced some facts perceived as problem areas. These include a lack of proper patient education and counseling, patients adjust medication schedules without medical supervision and, in some cases, patients are not receiving periodic followup. A hypertensive monitoring program has been developed and is coordinated with community physicians for referral and medical followup.
4. Letterkenny Army Depot included details of industrial hygiene activities for 1978. Special studies were conducted for metallizing operations, grinding operations, asbestos exposures, and methyl chloroform exposures. Special consideration was given to the Respiratory Protection Program and problem areas have been resolved.
5. Fort Gordon has initiated a new program for new employee orientation. New hires now receive an orientation to occupational health by the occupational health nurse at the time the employee is processing in. Plans are underway to initiate programs in preemployment and periodic history taking by the occupational health nurse, chronic disease surveillance and increased emphasis on health education.
6. Fort Eustis has an aggressive employee education program with much emphasis on Pulmonary Function Testing, Asbestos, Smoking and Lung Disease. A smoking withdrawal clinic was held with encouraging results. Other classes

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offered included hearing conservation, heat and cold injury control, and birth control and personal hygiene.

7. Japan. This year an occupational health report was received from the US Army Health Clinic, Honshu. These data were not included in the summary data because at this time, it did not belong by definition in any of the five MACOM categories used in this report. The report indicates that steps are being taken to improve the occupational health services in accordance with legal and regulatory requirements.

8. Aberdeen Proving Ground--Aberdeen Area enhanced their report with detailed information about the specific types and numbers of examinations given to employees. These examinations were broken down by type of examination and the numbers of examinations given to certain job classifications, such as firefighters and welders. Occupational illnesses and injuries were reported by type and number and graphs of the numbers of services provided since 1974 were included. Aberdeen Proving Ground also outlined staff activities for 1978 and included information regarding staff inservice education.

9. Aberdeen Proving Ground--Edgewood Area also included additional information regarding types of examinations provided to employees, types of illnesses and injuries and employee health counseling and education. Clinic staff provided valuable assistance to this Agency's staff investigating possible effects of low level benzene exposure on the hematopoietic system. They have also initiated investigations of clinic observations which appeared to be more frequent than expected. Epidemiologic investigations, such as these, are extremely important aspects of an occupational health program.

10. Fort Belvoir included an update of recent improvements in the occupational health program. A podiatry program has been initiated and the occupational vision program is being expanded. Some unusual illness and injury cases were presented.

11. White Sands Missile Range submitted information on the industrial hygiene surveys conducted during 1978. Emphasis was placed on the noise level surveys. In addition, details of an investigation of a possible radiation overexposure were also included.

12. Fort Sill reviewed the "highlights" of the occupational health program for 1978. Changes have been initiated in the vision program which should improve efficiency and quality of care. The management of the hearing conservation program has been completely assumed by the Preventive Medicine Activity with the post audiologist serving as consultant to the program.

13. Fort Riley included supplementary information on most sections of the report. This includes detailed information about the population served,

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specific information on the vision and hearing conservation programs and the radiation and immunization protection programs.

14. Fort Richardson briefly reviewed three epidemiologic investigations conducted; two to determine the cause of two apparent outbreaks of disease and the third to followup a group with exposure to PCB. The symptoms of one group were finally attributed to job dissatisfaction, the symptoms of the second group were attributed to lead-based paint suspended in naphtha, and the employees with a PCB exposure have, to date, no apparent sequelae. These types of investigations are essential elements of a good occupational health program. More installations should include brief summaries of epidemiologic activities in their reports so that they may be shared through the annual report.

15. Fort McPherson submitted an evaluation/review of the hearing conservation program. Problem areas in the program such as inadequate numbers of properly trained personnel to conduct audiometric testing and deficiencies in the audiometric testing booths were discussed. Recommendations to improve the program and resolve problem areas were outlined.

16. Fort Meade inclosed information on the research, design and coordination of the computerized occupational health program for Fort Meade. New forms were developed to collect appropriate occupational health information for military and civilian employees.